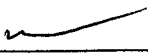


Date: Tuesday, 23/01/2007 7:51:10 AM  
User: Linda Lacelle

# Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: FWD X-TUBE
Job Number	: 23963		
Estimate Number	: 10006		
P.O. Number	: N/A	Part Number	: D2889
This Issue	: 23/01/2007 S.O. No. : N/A	Drawing Number	: D2889 REV B
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 05/11/2005 Type : LANDING GEAR	Drawing Revision	: B
Previous Run	: 22533	Material	: N/A
Written By	: 	Due Date	: 02/06/2006 Qty: 15 Um: Each
Checked & Approved By	: _____		
Comment	: Est Rev:A New Issue 05-10-25 JLM		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	D6005128	Crosstube material
-----	----------	--------------------



Comment: Qty.: 0.0000 Each(s)/Unit Total: 0.0000 Each(s)

Crosstube material

Pick:

Qty	Part number	Description	Batch
-----	-------------	-------------	-------

1	D2889	Fwd Crosstube	
---	-------	---------------	--

2.0	D6005180	Crosstube material
-----	----------	--------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total: 15.0000 Each(s)

Crosstube material

3.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1

1-Bend D2889 as per Dwg D2889 and Folio FT001

2-Deburr and Polish

4.0	QC6	DIMENSIONAL CHECK
-----	-----	-------------------



Comment: DIMENSIONAL CHECK

5.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
-----	-----------------	----------------------------



Comment: HAND FINISHING RESOURCE #1

Acid etch and alodine as per QSI 005 4.1

Inside and outside of tube

*DP/ALY 100 7-1-26*

*(17)*

Date: Tuesday, 23/01/2007 7:51:10 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD X-TUBE

Job Number: 23963

Part Number: D2889

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

DP 7-1-26 (17)

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: LG

DP/JP 7-1-26

8.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

(17) 07/01/29

Job Completion



U 07-01-29

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	23963
<b>Description:</b> Fwd Crosstube		<b>Part Number:</b>	D2889
<b>Drawing:</b> D2889 Rev. B; D6005 Rev. A		<b>Qty:</b>	15
		Page 1 of 1	

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller <b>Dwg not required</b>	W	05/08/05	15
2	PG	Issue P/O: <u>2008430</u> a) Extrude as per Dwg D6005 length = 180" (Ref. D6005-180) b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) ) Seamless aluminum tube c) Minimum ultimate tensile strength = 77ksi d) Minimum tensile yield strength = 66ksi e) <b>Material certification required</b>	W	05/08/05	15
3	RG	Receive and inspect for transit damage <b>Ensure material certification attached</b>	CL	05/10/31	17
4	QC6	Inspect dimensions as per Dwg D6005 and check 180" length	W	06/08/10	17
5	FP	Acid etch and alodine as per QSI 005 4.1 Inside and outside of tube			
6	QC3	Inspect Acid etch and Alodine			
7	ST	Identify and stock	HT	06-08-11	17
8	AC	Cost / part: _____			
9	DC	Close W/O Inspect Level 21			

Rev	Date	Change	Revised By	Approved
A	99.05.31	New Issue, ECN 200	DM	
B	00.04.11	Remove Painting step	EC	
C	02.10.18	Re-format; Added spec	KJ	
D	05.03.21	Removed Bending procedures	KJ/JLM	

**RELEASED**  
05/15/03.21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: ☒ Date: 07/01/09

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

□□□□□□□□

# Job Costing Report

Dart Aerospace Ltd.  
Hawkesbury

Aug 04, 2005  
03:24 pm

Work Order No	: 0023963	Department Code:	
Project Name	: D2889	Burden Flags	: NNNNNNN
Project For	: WK543	WO Status	: Open
Work Order Type	: Main	Invoice State	: Not Invoiced
Main WO Number	:	Invoice Date	:
House Part Number	: D2889	Invoice Number	:
Description	: FWD Crosstube	Invoice Amount	: 0.00
Manufactured	: Yes		
Amount Req'd	: 15	Order Entry No	:
Amount Done	: 0	OE Value	: 0.00
Start Date	: 08-04-05		
Est Finish Date	: 10-29-05	Est Margin	: 0.000%
Act Finish Date	:	Actual Margin	: 0.000%
Drawings Req'd	: No		
Ok for Approval	:		
Approval Rec'd	:	\$0 Posted to Finished Goods	

	Estimated	Actual	Var. %	Posted	To Post
=====					
Material Cost	: 0.00	0.00	0.00	0.00	0.00
Engineering Hours	: 0.00	0.00	0.00		
Engineering Cost	: 0.00	0.00	0.00	0.00	0.00
Production Hours	: 0.00	0.00	0.00		
Production Cost	: 0.00	0.00	0.00	0.00	0.00
Packaging Hours	: 0.00	0.00	0.00		
Packaging Cost	: 0.00	0.00	0.00	0.00	0.00
OverHead Hours	: 0.00	0.00	0.00		
OverHead Cost	: 0.00	0.00	0.00	0.00	0.00
CNC Hours	: 0.00	0.00	0.00		
CNC	: 0.00	0.00	0.00	0.00	0.00
Misc. Hours	: 0.00	0.00	0.00		
Misc.	: 0.00	0.00	0.00	0.00	0.00
=====					
Burden	: 0.00	0.00	0.00		
=====					
Total Cost	: 0.00	0.00	0.00		
Margin	: 0.000	0.000			
Selling Cost	: 0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done	: 0.00	0.00
Profits/(Loss)	: 0.00	0.00



ALUnna

# Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

**Kunde:**

Dart Aerospace Ltd.

**Client:**

1270 Aberdeen Street  
K6A1K7 Hawkesbury, ON Canada

**Produkt:**

Product / Produit:

Rohre nahtlos gepresst  
Tubes seamless extruded Tubes file sur aiguille

**Spezifikation:**

Specification:

AMS - QQ - A - 200/11E; Spezifikation D6005

**Werkstoff:**

Alloy/Alliage:

7075

**Abmessung**

Size / Dimension

2,750 INCH x 2,000 INCH x 0,375 INCH x 180,000 INCH

**Zeugnisnummer:**

717/05

Cert No. / No. du certificat:

**Bestellnummer:**

2008430

Order No. / No. de commande

**Auftrag:**

15301/6

Our Reference/Notre Reference:

**Zustand:**

T 6511

Temper/Etat

**Kennzeichnung**

Marking/Marquage:

ALUnna - Cert No. 717/05 - 7075 - T 6511 - Cast No. 79609 - QQA 200/11E - 2.750" OD X 0.375" Wall - Heat No.  
85/09 - Lot 15301/6-1 - PO. 2008430

**Lieferung**

Delivered Material / Matériel délivré:

pcs.

lbs

17

873

**1. Chemische Analyse****Chemical Analysis / analyse chimique**

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
79609	0,093	0,173	1,49	0,034	2,50	0,199	5,82	0,037	0,007	0,016	0,003	<0,001	0,005

Elements without indication &lt; 0,01 %

**2. Mechanische Eigenschaften****Mechanical Properties / Valeurs Mécaniques**

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat No.
min.	77,0	66,0				
max.						
1	87,145	80,910	10,0		177	85/09 - 17 pcs.
2	87,435	81,055	10,0		171	

**Ergebnis der Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

**Test results:**

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

**Resultats:**

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KroosD

26.09.2005



Certified acc. to DIN EN ISO 9001:2000, valid until 2006-03-09  
Certificate No.: 001959 QM



ALUnna

Abnahmebeauftragter

